Guidance for upgrading to GB8898-2011 (IEC 60065 Ed 7.1: 2005)

Note: *This guidance document is a translation of official Chinese document which is issued by CQC(China Quality Certification Center) on 2012-04-10. Please refer to the source document where any questions or ambiguities are found in this translation.*

Source document link: http://www.cqc.com.cn/chinese/gkwj/rzbzxx/bzhbxx/webinfo/2012/04/1333591184988358.htm

Changes in GB 8898-2011

Seq. #	Clause	Changes between New and Old	
		Requirement in GB8898-2011 (New)	Requirement in GB8898-2001 (Old)
1	5	Add the warning statement or symbol to indicate product installation/use only applicable to altitudes up to 2000m.	No relevant requirement.
		Add the warning statement or symbol to indicate product installation/use only applicable to non-tropical areas.	
2	5.1 i)	Clarify that the measured current or power consumption at RATED SUPPLY VOLTAGE shall not exceed the marked value by more than 10 %.	Not clear if the measurement must be conducted at rated supply voltage.
3	5.4.1 d),e),f), g),h),i)	Add related warning or instruction requirements: d) A warning that an apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.	No relevant requirement.
		e) Instructions to ensure correct and safe installation and interconnection of the apparatus in multimedia systems.	
		f) If the apparatus is not tested to the stability requirements of 19.1, 19.2 or 19.3 due to fastening in place, the relevant warning or instruction shall be marked on or provided with the apparatus.	

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		g) A warning that batteries (battery pack or assembled batteries) shall not be exposed to excessive heat such as sunshine, fire or the like. h) If the apparatus is provided with a CRT with protective film attached to the screen as part of the safety implosion protection system in accordance to GB 27701, the relevant warning, or wording, shall be given in the instructions. I) For apparatus incorporating antenna coaxial sockets without isolation from the CATV network, the following warning wording or similar wording shall be given in the instruction manual: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation which can withstand insulation resistance for basic insulation."	
4	5.4.2	Add disconnect device requirement in the instruction manual: a) where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable; b) where an all-pole MAINS SWITCH is used as the disconnect device, the location on the apparatus and the function of the switch shall be described, and the switch shall remain readily operable;	No requirements

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5	7, Table 3	The values of the temperature rises are based on a maximum ambient temperature of 35℃ for moderate climates. For tropical climates, permissible temperature rises of 10K less than those specified in this Table are required.	The values of the temperature rises are based on a maximum ambient temperature of 35 ℃ for moderate climates
6	8.17, 8.18, 8.22	Add the test requirement for Insulated winding wire for use without interleaved insulation (per Annex H). Add the Endurance test requirement for wound components with insulated winding wires without additional interleaved insulation. Add the test specifications of non-separable thin sheet material.	No relevant requirement.
7	9.1.1.1， 11.1	For apparatus intended to be used in tropical climates, the open circuit voltage and touch current limit values given in normal and fault condition shall be halved. For apparatus intended to be used in other than tropical climates, the open circuit voltage and touch current limits are same to the one in old version. Note - For tropical climates, both the open circuit voltage values (9.1.1.1a) and the touch current values (9.1.1.1b) are to be halved.	
8	9.1.1.2	Required to use child test finger to repeat the test to determine the accessibility of component. Note – For the child test finger, refer to GB/T 16842, test probes 18 and 19.	No requirement to use accessibility probes representing a child's finger.
9	10	Add requirement: The Insulation resistance between CATV antenna coaxial sockets and protective earth of apparatus shall comply with BASIC INSULATION. If it is possible that CLASS II apparatus with CATV antenna	No relevant requirement.

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		coaxial sockets connect with protective earth of another CLASS I apparatus by other terminals, the insulation resistance between them shall comply with BASIC INSULATION as well. Added Note: If the antenna cable is electrically isolated from the protective earth before connection to the apparatus, there are no requirements of Insulation resistance, but the requirements of 5.4.1i) are applied.	
10	10.2	For apparatus intended to be used in tropical climates, humidity conditioning: temperature 40℃±2℃, relative humidity 93%±3%, conditioning time 120h. For apparatus intended to be used in other than tropical climates, humidity conditioning: relative humidity （93±3）%, temperature: between 20℃～30℃（t±2）℃ without condensation, conditioning time 48h.	Humidity conditioning: Temperature 30℃ (-2, 0), relative humidity 93%(-3, +2), conditioning time 2 days.
11	12.1.3	Add steel ball impact test to the non-ventilated solid areas of the enclosure that protect HAZARDOUS LIVE parts.	No relevant requirement.
	12.1.4	Add drop test for portable apparatus whose mass is not more than 7kg.	
	12.1.5	Add stress relief test for thermoplastic enclosure.	
12	12.5	Add mechanical stress tests for antenna coaxial sockets incorporating parts or components which electrically isolate HAZARDOUS LIVE parts from ACCESSIBLE parts or protective earth from other TERMINALS.	No requirement to Antenna coaxial sockets which consist of component to isolate from protective earthing circuit.
13	12.6	Add construction requirement for Telescoping or rod antennas.	No relevant requirement.

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14	13， Annex J	The determination of clearance and creepage distance based upon working voltage is different from the approach in GB 8898-2001. For apparatus intended to be operated at an altitude exceeding 2 000 m but not more than 5 000 m, the minimum clearance value is multiplied by a factor of 1.48. Minimum clearance values for apparatus intended to be operated at an altitude exceeding 5 000 m are multiplied by a factor from Table A.2 of GB/T 16935.1.	
15	14.3, 14.3.2	The line choke and winding shall comply with the applicable requirements of GB8898-2011 or with GB 19212.1 and its related part; switching mode power supply transformers shall comply with GB8898-2011 or GB 19212.1 together with GB 19212.18.	No alternative requirement to comply with GB 19212.1 together with the related part.
16	14.5.3	PTC's shall comply with the requirements of GB 14536.1, clauses 15, 17, J.15 and J.17.	PTC-S shall comply with the requirement of GB 7153
17	14.10.4, 14.10.5	Add Stress relief test for SPECIAL BATTERY, in which containment of the electrolyte is dependent upon thermoplastic materials. Add Drop test for USER-serviceable SPECIAL BATTERY.	No relevant requirement.
18	14.12	Add test requirement to Surge suppression varistors used in order to prevent MAINS overvoltages coming into the apparatus, test according to GB/T 10194.	No relevant requirement.
19	18.1	Regarding intrinsically protected picture tubes, test per GB 27701 (IDT IEC 61965); test method is different from GB 8898-2001.	Regarding intrinsically protected picture tubes, test per GB 8898 clause 18.2.
20	19	Apparatus having a mass of 7 kg or more shall comply with stability test (Test at 10°to the horizontal and Vertical force test)	Apparatus having a mass of more than 18 kg shall comply with stability test
21	19.3	Add Horizontal force test, applicable to: - Apparatus with a mass of 25 kg or	No relevant requirement.

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		more, or - Apparatus, excluding loudspeaker systems, with a height of 1 m or more, or - Apparatus, excluding loudspeaker systems, in combination with a supplied or recommended cart or stand with a total height of 1 m or more.	
22	19.6	Add test for apparatus intended for wall or ceiling mounting	No relevant requirement.
23	20.1.4, Annex G.1.4	Other components' relevant flammability category is HB75 or V-1 according to GB/T 11020 flammability requirement. HB 75 test sample shall be cut from the end product with minimum thickness and tested per GB/T 5169.16.	Other components' relevant flammability category is FH 3~40mm/min or FV-2 according to GB/T 11020 flammability requirements, FH 3~40mm/min test on sample with 3 mm thickness.
24	Annex B	The requirement for Apparatus to be connected to the TELECOMMUNICATION NETWORKS is according to GB xxxx (IDT IEC 62151) detail requirement with modification, which is different from GB 8898-2001.	The requirement for Apparatus to be connected to the TELECOMMUNICATION NETWORKS is emerged in response to the related modified clauses of Standard.
25	Annex G.3	Add needle flame test for barriers shielding components from POTENTIAL IGNITION SOURCES.	No relevant requirement.
26	Annex L	Add annex L, Additional requirements for electronic flash apparatus for photographic purposes	No relevant requirement.

Standard upgrading requirements

1. **Document submittal:**

    1) Intended altitude specification;

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2) Intended climatic condition specification;

3) User manual (in Chinese), and shall comply with GB8898-2011;

4) Marking label, and shall comply with GB8898-2011;

5) Warning markings required by GB8898-2011;

6) Component certificates to comply with GB8898-2011 or instructions of EUT;

2. Differences in tests (At least one complete sample is required)

Product electrical characteristics	Standard Clauses
Product directly connected to AC or DC mains	Cl. 5 Markings and Instructions
	Cl. 5.1i Input current test
	Cl. 7.1 Heating under normal condition (for apparatus intended to be used in tropical climates)
	Cl. 9.1 Electric shock hazard under normal operating conditions (Testing on the outside)
	Cl. 10 Insulation requirements (for coaxial terminals)
	Cl. 10.2 Humidity treatment (for apparatus intended to be used in tropical climates)
	Cl. 10.3 Insulation resistance and dielectric strength (for apparatus intended to be used in tropical climates, and for the insulation between CATV antenna coaxial sockets and protective earth)
	Cl. 11 Fault conditions (for apparatus intended to be used in tropical climates) (by inspection of data or by testing if in doubt)
	Cl. 12.1.3 Impact test (if applicable)
	Cl. 12.1.4 Drop test (for portable apparatus whose weight not more than 7kg)
	Cl. 12.1.5 Stress relief test (for apparatus with thermoplastic enclosure)
	Cl. 12.5 Antenna coaxial sockets mounted on the apparatus
	Cl. 12.6 Telescoping or rod antennas

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	Cl. 13 Clearance and creepage distances (only for apparatus applicable to altitude up to 2000m)
	Cl. 14.10 Batteries (including batteries and electronic protective circuit) (if applicable)
	Cl. 19 Stability and mechanical hazards (if applicable)
	Cl. 20.1.4 Components and parts not covered by 20.1.1, 20.1.2 and 20.1.3 (if applicable)
Product supplied by an external power supply such as power adaptor or charger, etc.	Cl. 5 Markings and Instructions [Note: when Cl.7.1, Cl.11 and Cl.19 are not applicable, no sample is required , only provide marking and instruction for inspection (including the specification of power adaptor or charger); when part of clauses are applicable, separate component samples are required]
	Cl. 7.1 and 11 Heating under normal and abnormal conditions (for apparatus intended to be used in tropical climates) (by inspection of data or by testing if in doubt)
	Cl. 10 Insulation requirements (for the insulation of antenna terminal) Cl. 12.5 Antenna coaxial sockets mounted on the apparatus (for isolation between CATV antenna coaxial sockets and protective earth) (if separate isolator used, 2 samples of isolator are required)
	Cl. 14.10 Batteries (including batteries and electronic protective circuit) (if applicable, 4 samples of battery are required)
	Cl. 19 Stability and mechanical hazards (if applicable)

Note: Above differences apply generally to audio/video apparatus. For special products, if applicable, clauses indicated in above standard difference list should be considered.

3. Critical Component list:

a. For devices used above 2000m altitude, clearance and creepage distance requirements have significant differences compared with GB8898-2001 and equivalent IEC standard (CB-transferred products involved), the clearance limit is 1.48 times of previous limit based on 5000 m altitude, thus, components bridging primary and secondary circuit, such as optical isolators, transformers, bridging capacitors, etc., shall comply with this new requirement. (Translator's note: Minimum clearance values for apparatus intended to be operated at an altitude exceeding 5 000 m are multiplied by a factor from Table A.2 of GB/T 16935.1.);

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b. New requirement for PTC's. PTC's shall comply with the requirement of GB 14536.1 clause 15, 17, J.15, J.17 (in old Standard is GB 7153) (see Cl. 14.5.3);

c. New requirement for VDR's (see Cl. 14.12);

d. New requirement for batteries (see Cl. 14.10), 4 samples of battery is required;

e. New requirement for intrinsically protected picture tubes, test method shall comply with GB 27701(IDT IEC 61965) (see Cl.18.1);

f. Add test requirement for apparatus intended for wall or ceiling mounting (see Cl.19) the associated mounting bracket provided by manufacturer shall be required;

g. If an isolating-type antenna coaxial cable connector is used, 2 samples of connector are required;

h. Add the test requirement for insulated winding wire (see Cl.8.17; 8.18; 8.22), 5 set of sample is required.

Note: Components previously certified to GB8898-2001 shall apply for standard upgrade at the same time.

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